



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/597,252

07/18/2006

John M. Shannon

GB 040024

8340

24737

7590

01/07/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

GHYKA, ALEXANDER G

ART UNIT

PAPER NUMBER

2812

MAIL DATE

DELIVERY MODE

01/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,252	Applicant(s) SHANNON ET AL.	
	Examiner ALEXANDER G. GHYKA	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 5-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 13-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/30/2008.

Claims 1-12 are under consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hebiguchi (US 5,801,398) in view of Wu (US 5,441,905).

Hebiguchi et al disclose providing a transparent substrate 41 (column 6, lines 20-25 and Figure 1); depositing a gate layer and patterning the gate 42; depositing a gate insulating layer 43; depositing a thin film semiconductor layer 44; and depositing a source layer 45 defining a barrier with the semiconductor layer. See Figures 1 and 2, and column 6, lines 25-65.

Hebiguchi et al differ from the present Claims in that Hebiguchi et al does not disclose using a step of back exposure through the substrate using the gate as a mask.

Wu et al disclose the formation of a thin film transistor. Wu et al disclose that the source electrode is obtained by exposing negative photoresist on top of the transistor by incident light from the back of the transparent substrate using the gate as a mask. See Figures 3f-3i; column 1, lines 40-60, and column 2, lines 50-60.

It would have been obvious for one of ordinary skill in the art, at the time of the invention to use the process of Wu et al, to form the thin film transistor of Hebiguchi et al, for its known benefit in patterning the source. As both references pertain to thin film transistors, the use of a known method, back exposure, for its known benefit, patterning the source would have been *prima facie* obvious to one of ordinary skill in the art.

Claims 2, 4 and 10-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Hebiguchi (US 5,801,398) in view of Wu (US 5,441,905) as applied to claim 1 above above, and further in view of Miyairi et al (US 2003/0219935).

Hebiguchi et al and Wu et al are relied upon as discussed above.

However, neither reference discloses the use of spacers, a self aligned process or the formation of field relief regions.

Miyari et al disclose the formation of a thin film transistor. With respect to Claim 2, Miyari et al disclose the use of spacers, and their benefit in forming lightly doped drain regions in a self aligned manner. See column 16, paragraph 237 and Figure 11A.

It would have been obvious for one of ordinary skill in the art, at the time of the invention, to use spacers in a process as disclosed by Hebiguchi in view of Wu , for its known benefit in the art of forming self aligned lightly doped drain regions. The use of a

Art Unit: 2812

known process for its known benefit would have been *prima facie* obvious to one of ordinary skill in the art. As all of the references pertain to thin film transistors, a *prima facie* case of obviousness is established.

With respect to Claim 4, the LDD region can be considered a field relief region or a barrier lowering implant as doping is involved.

With respect to Claim 11, the barrier lowering region is self aligned to the gate but implanted over a narrower area. See LDD regions 303a and 303b.

Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hebiguchi (US 5,801,398) in view of Wu (US 5,441,905) as applied to claim 1 above , and further in view of Yagi et al (US 2003/0178629).

Hebiguchi et al and Wu et al are relied upon as discussed above.

However, neither reference discloses the use of a transparent source layer or a transparent dielectric layer as required by the Claims at hand.

Yagi et al disclose the use of transparent source and dielectric layers in forming thin film transistors used in light emission elements. See paragraphs 123-125 and 128.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use transparent source and dielectric layers in the TFT as disclosed by Hebiguchi in view of Wu, for their known benefit in light emission elements as disclosed by Yagi et al. As all of the references pertain to thin film transistors, a *prima facie* case of obviousness is established.

Allowable Subject Matter

Claims 5-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The cited prior art does not anticipate or make obvious steps e) – j) of Claim 5 and its dependent Claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER G. GHYKA whose telephone number is (571)272-1669. The examiner can normally be reached on Monday through Friday 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on (571) 272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2812

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AGG

January 2nd, 2008

/Alexander G. Ghyka/

Primary Examiner, Art Unit 2812